

Work Order ID 155625***155625***

Page 1

Tuesday, January 17, 2017 11:30:22 AM

Item ID: 646.9701

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Cutter Sub Assembly

Start Date: 1/12/2017 Start Qty: 2.00 ***2***

Cust Item ID:

Required Date: 1/17/2017 Req'd Qty: 2.00 ***2***

Customer:

Reference:

Approvals: Process Plan: **DAS 21 9-89** Date: **JAN 19 2017**

Tooling:

Date:

Run Start

NR1

QC: Date: SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

646.9700

REV D2

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

120

120

Small Fab

Memo

0.08

Small Fab

Assemble as per dwg and apply loctite 598 on all faying surfaces per note .

A/R RTV LOCTITE 598: **135385**
exp. date: **04/18**

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.01

Quality Control

DAS 38 9-89
FEB 08 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Work Order ID 155625

Tuesday, January 17, 2017 11:30:22 AM

155625

Page 2

Item ID: 646.9701**Accept*****N900040100*****Setup Start *NS1*****Revision ID:****Item Name:** Cutter Sub Assembly**Stop *NS2*****Start Date:** 1/12/2017 **Start Qty:** 2.00***2*****Cust Item ID:****Required Date:** 1/17/2017 **Req'd Qty:** 2.00***2*****Customer:****Reference:****Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____**Run Start *NR1*****QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____**Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Identify as per dwg & Stock Location: <u>cccc</u>	0.00							
140									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER IAW MPP-120***								
150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.03							
Quality Control									

2 DAS 6 9-89

FEB 13 2017

DAS 21 9-89

FEB 13 2017

MF
17-2-13

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval				
Description Work Order Deviation				Disposition							
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
				OTHER : _____							

Picklist Print

Tuesday, January 17, 2017 11:30:21 AM

Page 1

Work Order ID: 155625

155625

Parent Item: 646.9701

646 9701

Parent Item Name: Cutter Sub Assembly

Start Date: 1/12/2017

Required Date: 1/17/2017

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 12.08.13 NEW ISSUE DD VERF:JFS
:B AS PER REV D 16-03-07 JLM VERIFIED BY:JFS

IPP REV

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
646.9710 *646 9710* Body		Manufactured	No				Each	6.0000	**	2	DAS 6 9-89	JAN 25 2017	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				cck012		6							
				150127		6							
646.9711 *646 9711* Blade		Manufactured	No			110	Each	34.0000	**	4	DAS 6 9-89	JAN 25 2017	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				CCK106		34							
				150119		14							
				152743		10							
				152811		10							
MS27039-08-19 *MS27039-08-19* Screw		Purchased	No			110	Each	418.0000	**	12	DAS 6 9-89	JAN 25 2017	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				GA		161							
				m135948		161							
				ST277		257							
				m136199		15							
				m136301		42							
				m136537		200							

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Picklist Print

Tuesday, January 17, 2017 11:30:21 AM

Page 2

Work Order ID: 155625

155625

Parent Item: 646.9701

646 9701

Parent Item Name: Cutter Sub Assembly

Start Date: 1/12/2017

Required Date: 1/17/2017

Start Qty: 2.00

Required Qty: 2.00

NAS1149FN832P

Purchased

No

110

Each

1,533.000

12

24

NAS1149FN832P

Washer

DAS
6
9-89

JAN 25 2017

Location

Loc Qty

Loc Code

GA

576

M135058

232

M136182

344

ST263

957

M136182

957

MS21042L08

Purchased

No

110

Each

821.0000

6

12

MS21042L08

Nut

DAS
6
9-89

JAN 25 2017

Location

Loc Qty

Loc Code

GA

509

m135274

18

m135978

491

ST303

312

m136201

192

m136537

120

Tuesday, January 17, 2017 11:30:21 AM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By 		
							Lead hand / Supervisor Approval Verification 		
							QC / QA Coordinator Approval 		
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____ _____ _____							
Misidentified ☐	Past Due ☐								



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO.

05360

SHEET 1 OF 1

DWG NO. 646.9700

REV: D

PREPARED BY J. BECKER

DATE: 03/24/16

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: CUTTER SUB ASSY

APPROVED BY: ENGR *[Signature]*

MFG *[Signature]*

QC *[Signature]*

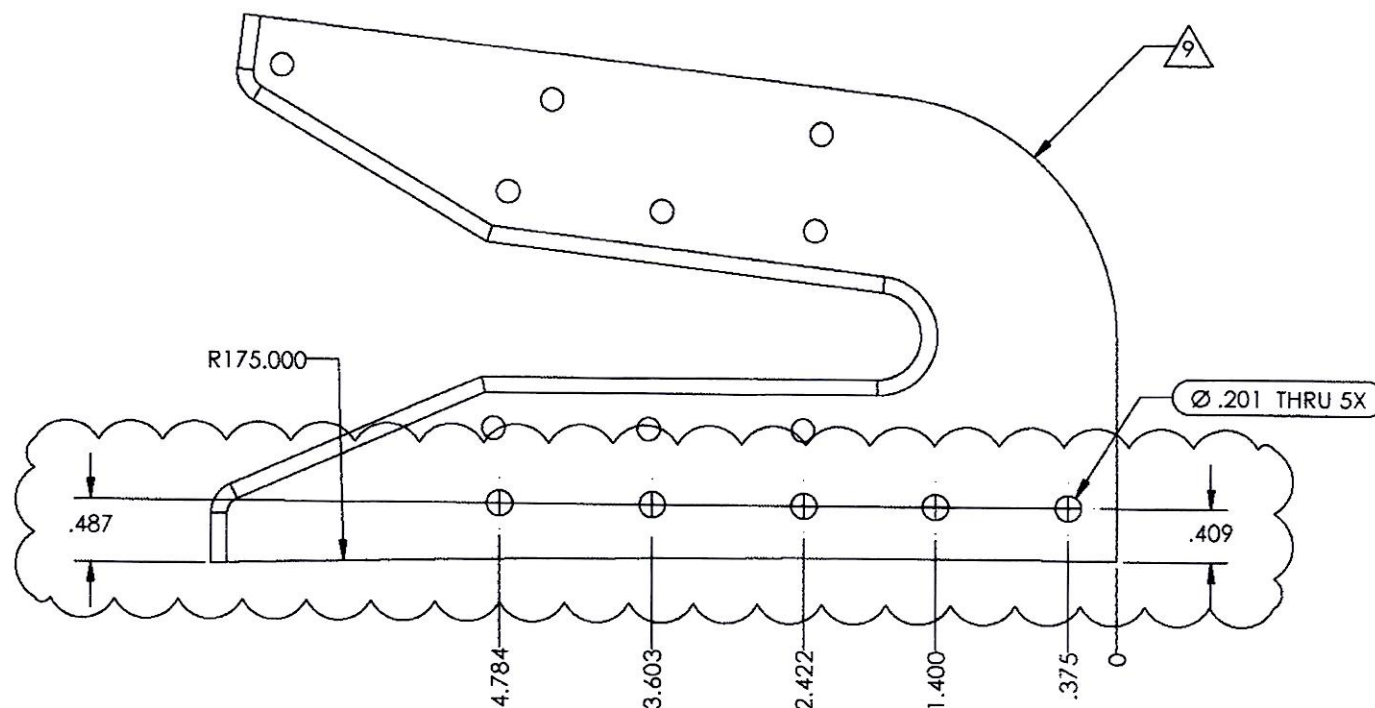
EFF. CURRENT ORDER

REASON: REVISED DIMENSIONS

ECR: N/A

ACTION ITEM:
1.

SHEET 7, ZONE C3 IS:



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 155625 MJS
17-01-19

DOCUMENTS EFFECTED:

☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

ENGINEERING CHANGE NOTICE NO.

05345

SHEET 1 OF 1

DWG NO. 646.9700

REV: D

PREPARED
BY

J. GARDINER

DATE: 03/15/16

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: CUTTER SUB ASSY

APPROVED BY:

ENGR.

MFG

QC

EFF.

CURRENT ORDER

REASON: REVISED NOTES

ECR:

N/A

ACTION ITEM:

1.

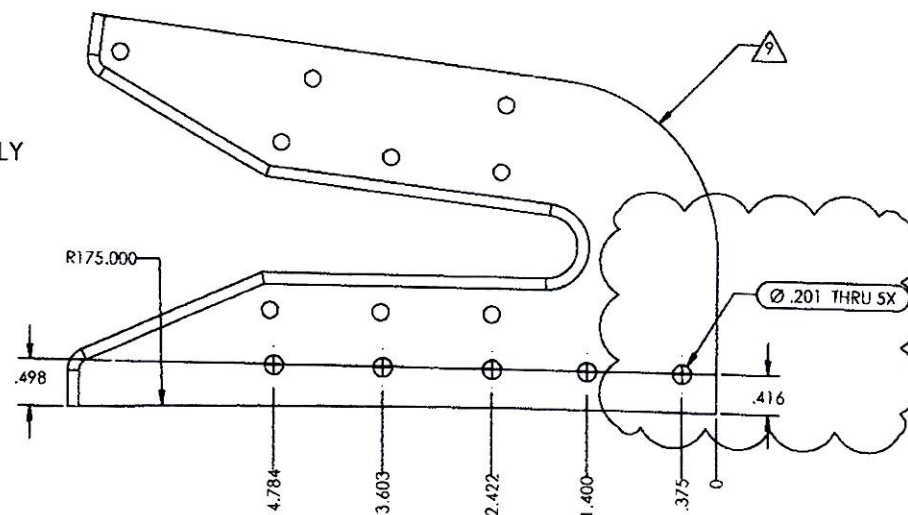
SHEET 1, ZONE A6 IS:

NOTES:

IS

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH IAW MPP-172 SECTION 2.1, 3.3 & 4.3.
- 3 MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MPP-172 SECTION 3.3; 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
6. IDENTIFY IAW MPP-120
- 7 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- 9 ALL DIMENSIONS NOT SPECIFIED ARE CONTROLLED BY 646.9710.

SHEET 7, ZONE C5 IS:



DOCUMENTS EFFECTED:

☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

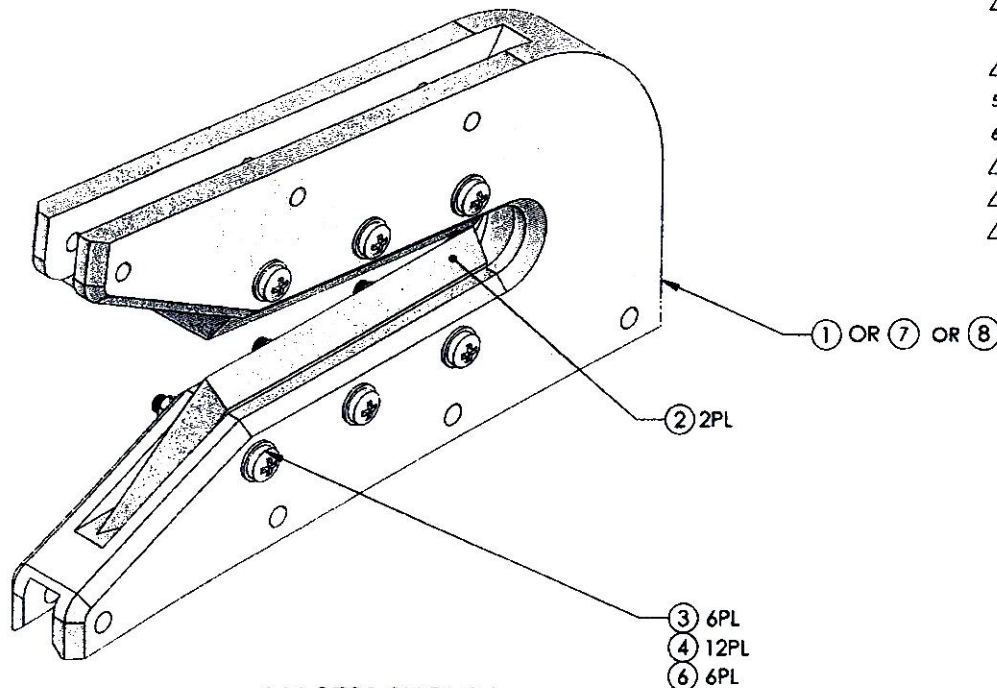
☐ YES ☒ NO

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE REVISION: P02		INC
INC	INITIAL RELEASE	03/29/09	P. BRAVO
A	INCORPORATED ECH 00744, 00808, 00912	06/04/13	P. BRAVO
B	INCORPORATED ECH 00947	07/03/13	P. BRAVO
C	INCORPORATED ECH 04039	08/08/13	P. BRAVO
D	INCORPORATED ECH 04329	02/26/16	P. BRAVO

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH IAW MPP-172 SECTION 3.3 & 4.3.
- 3 MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MPP-172 SECTION 3.3: 1-2 MIL MAX
- 5 DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
- 6 IDENTIFY IAW MPP-120
- 7 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP. DO NOT BREAK SHARP EDGE
- 9 ALL DIMENSIONS NOT SPECIFIED ARE CONTROLLED BY 646.9710.



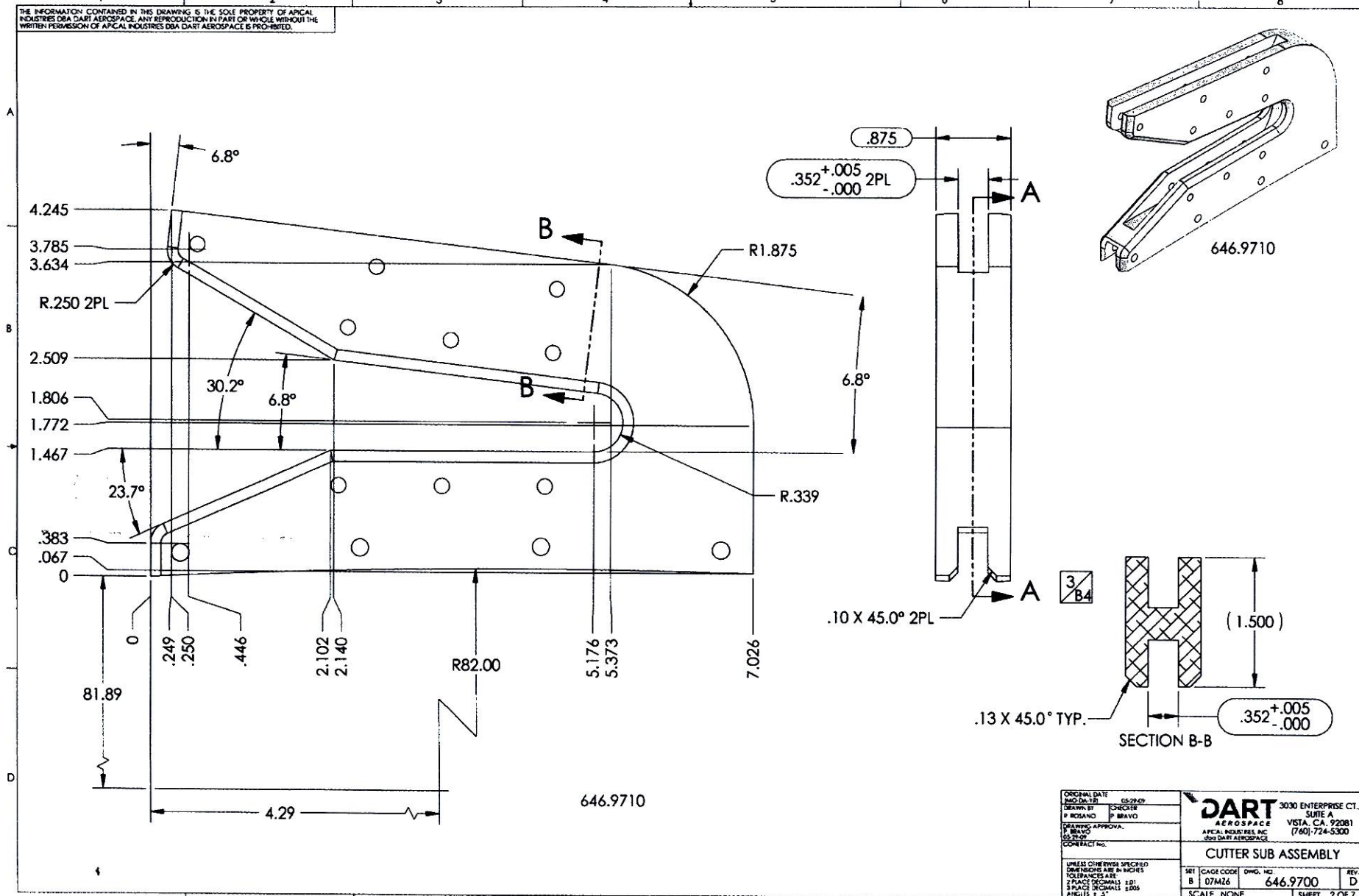
646.9701 SHOWN
646.9702 & 646.9703 TYP

UNINCORPORATED ECN(S)

05345, 05360,

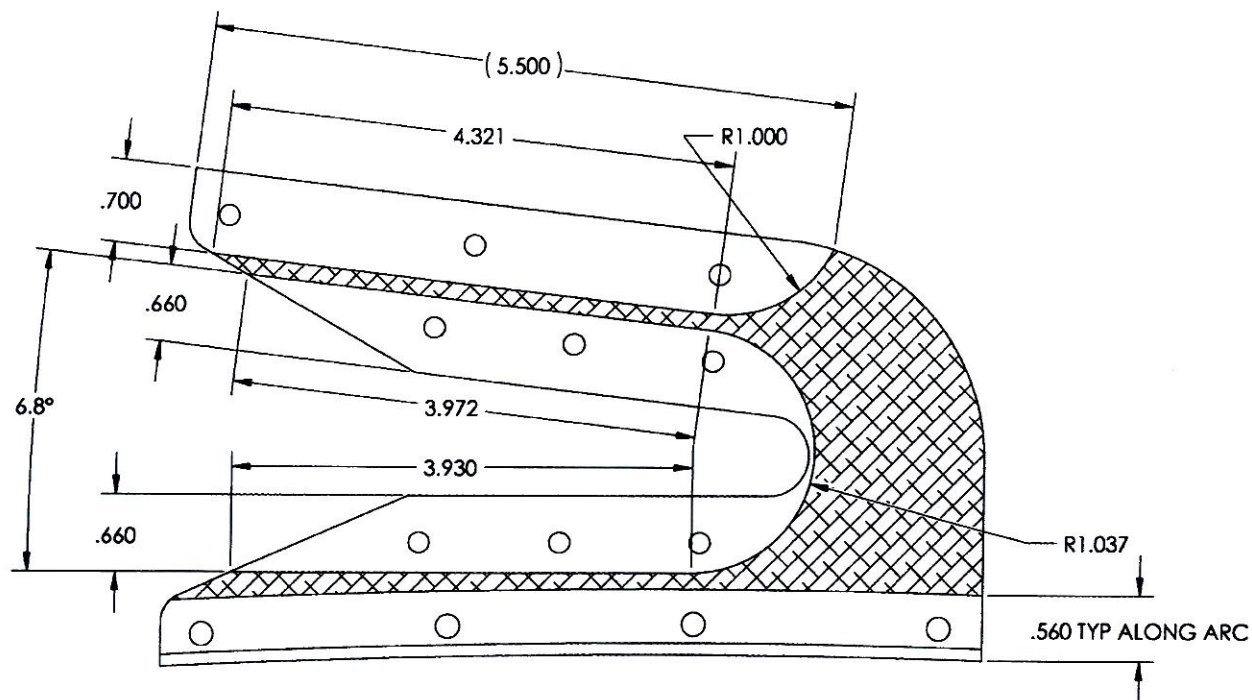
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	1		7	646.9712	BODY			
6	6	6	6	601.1541	LOCKNUT	MS21042L08		
A/R	A/R	A/R	5	601.2045	RTV, LOCTITE 598			
12	12	12	4	601.2764	WASHER	MS1147W832P		
6	6	6	3	601.2765	SCREW	MS27039-0819		
2	2	2	2	646.9711	BLADE			
			1	646.9710	BODY			
X				646.9703	CUTTER SUB ASSY			
	X			646.9702	CUTTER SUB ASSY			
		X		646.9701	CUTTER SUB ASSY			
REV	QTY	REV	QTY	FIND #	PART #	DESCRIPTION	MATL	SPEC.
QTY				PARTS LIST				
NEXT ASSY (S)				ORIGINAL DATE 05-28-09				
646.9600				DRAWN BY CHECKER				
				P. ROSANO P. BRAVO				
				DRAWING APPROVAL				
				P. BRAVO				
				CONTRACT NO.				
				(UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.015 ANGLES ±.5°)				
				DART AEROSPACE 3030 ENTERPRISE CT. SUITE A VISTA, CA, 92081 (760)-724-5300				
				APCAL INDUSTRIES INC. DBA DART AEROSPACE				
				CUTTER SUB ASSEMBLY				
				REV 07M16 646.9700 D				
				SCALE NONE SHEET 1 OF 7				

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ORIGINAL DATE 180-1A-15	CS-2742	DART 3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760) 724-5300 APICAL INDUSTRIES, INC. DBA DART AEROSPACE
DRAWN BY P. ROSANO	CHECKED P. BRAVO	
DRAWING APPROVAL J. BRAVO		
CONTRACT NO.		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .01 3 PLACE DECIMALS .005 ANGLES ± .5°		SET CAD CODE DWG. NO. B 07426 646.9700 SCALE NONE SHEET 2 OF 7

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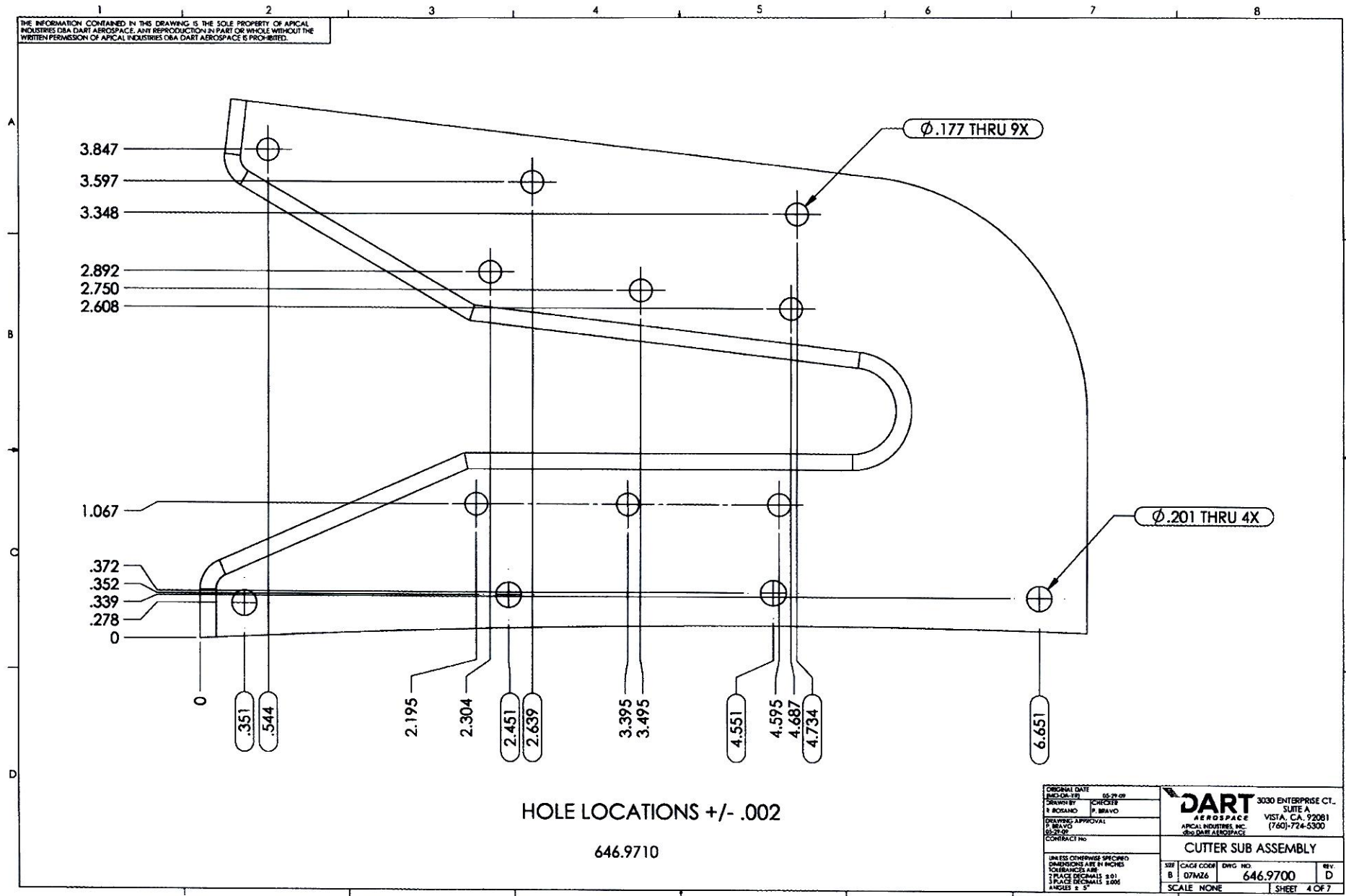


SECTION A-A 2/C6

646.9710

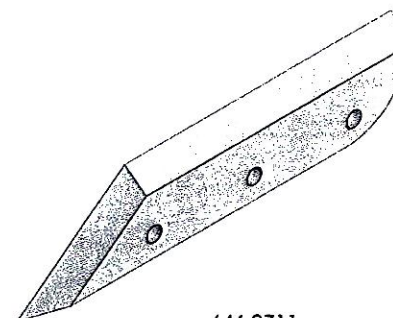
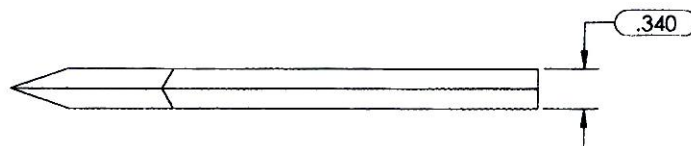
ORIGINAL DATE (M/D/Y-12) 06-29-09		 3030 ENTERPRISE CT., SUITE A VISTA, CA 92081 APICAL INDUSTRIES INC. DBA DART AEROSPACE (760)-724-5300	
DRAWN BY R. ROSANO	CHECKED BY P. BRAVO		
DRAWING APPROVAL: P. BRAVO 06-29-09		CUTTER SUB ASSEMBLY	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°			
1ST	CAGE CODE 07M26	DWG. NO. 646.9700	REV. D
SCALE NONE		SHEET 3 OF 7	

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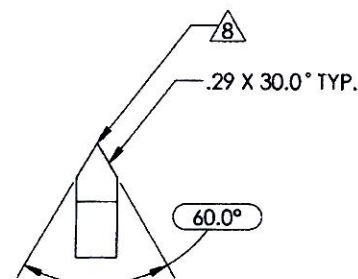
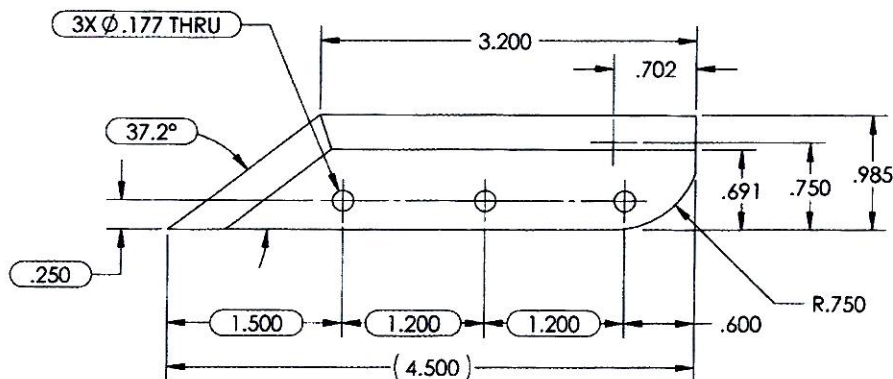


ORIGINAL DATE 10-28-09		3030 ENTERPRISE CT., SUITE A	
DRAWN BY J. BOKANO		VISTA, CA. 92081	
CHECKED BY P. BRAVO		(760)-724-5300	
DRAWING APPROVAL J. BRAVO		APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
CONTRACT NO.		CUTTER SUB ASSEMBLY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.001 ANGLES ± 5°		REV: D	DWG. NO. 646.9700
SCALE NONE		SHEET 4 OF 7	

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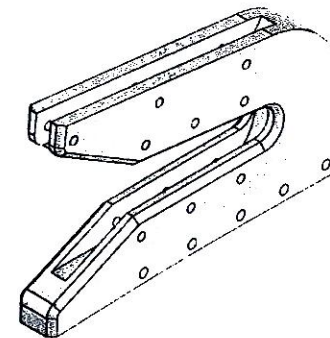
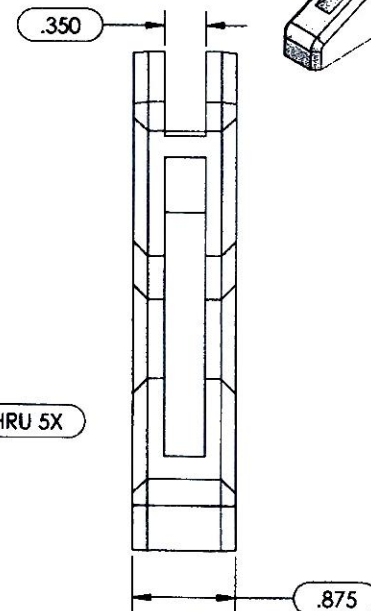
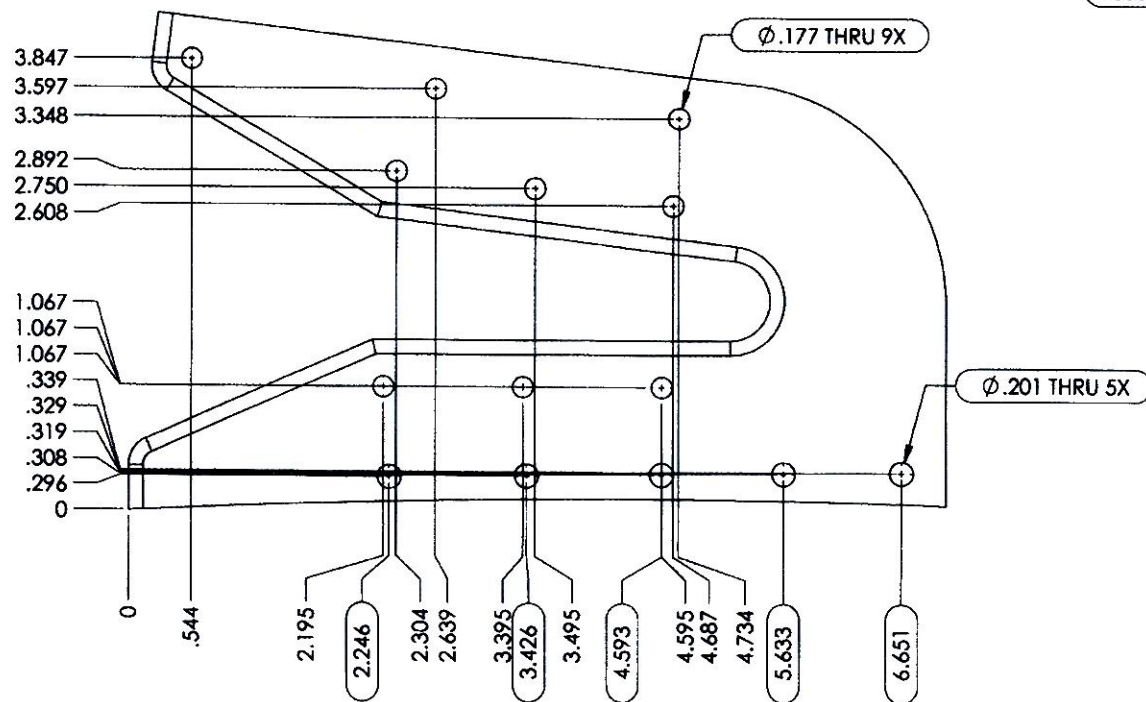
646.9711



646.9711

ORIGINAL DATE 1980-04-10		CUTTER SUB	
DRAWN BY P. ROSANO	CHECKED P. BRAVO	DART AEROSPACE 3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300	
DRAWING APPROVAL P. BRAVO 05/26/82		APICAL INDUSTRIES INC. DBA DART AEROSPACE	
CONTRACT NO.		CUTTER SUB ASSEMBLY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SIZE 8	REV. D
SCALE NONE		SHEET 5 OF 7	

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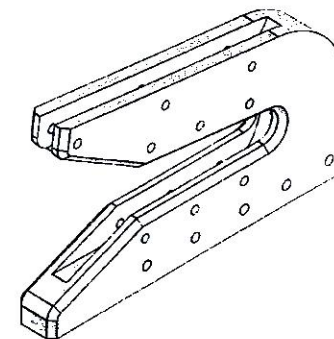


646.9712 9

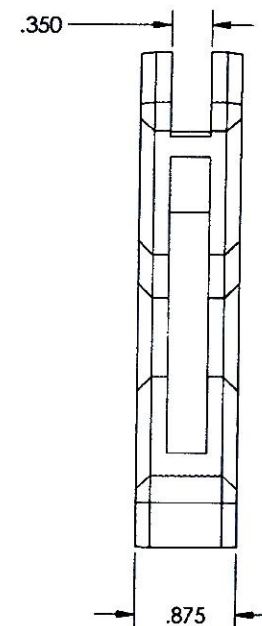
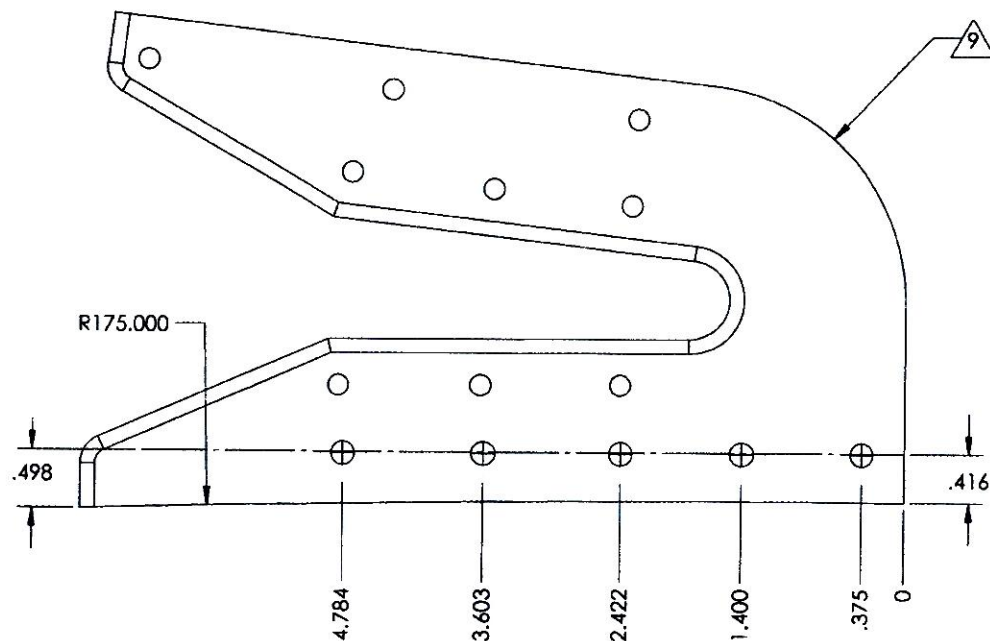
646.9712

ORIGINAL DATE 12-04-1991		DESIGNED BY R. ROSS		CHECKED BY P. BRAY	
DRAWING APPROVAL A. BRAY		CONTRACT NO.		3030 ENTERPRISE CT. SUITE A VISTA, CA. 92081 (760) 724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS .125 2 PLACE DECIMALS .005 ANGLES ± .5°		CUTTER SUB ASSEMBLY		REV D	
SCALE NONE		DWG. NO. 646.9700		SHEET 6 OF 7	

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646.9713



ORIGINAL DATE: 03-28-09		3030 ENTERPRISE CT.,	
DRAWN BY: J. ROSS-NO		SUITE A,	
CHECKED BY: J. BRADY		VISTA, CA. 92081	
DRAWING APPROVAL:		(760)-724-5300	
CONTRACT NO.:		APCAL INDUSTRIES, INC.	
		DBA DART AEROSPACE	
CUTTER SUB ASSEMBLY			
REV	CAGE CODE	QWC NO	REV
B	07M26	646.9700	D
SCALE: NONE		SHEET 7 OF 7	